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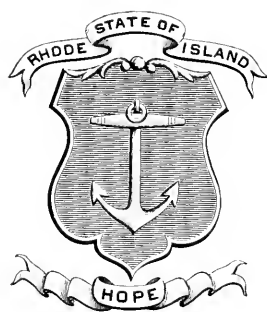


Brown  
University

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Education Department





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# ARBOR DAY



RHODE ISLAND

*May Ninth, Nineteen hundred and two*





# Arbor Day

1902

## *Teachers and Pupils.*

Another spring brings us again to our Arbor Day festival. This is peculiarly the children's day because it is so thoroughly linked with life, vigor, and growth. Then, too, by the law of association, all of Nature,—the flowers and shrubs, birds and animals,—all things which speak of living beauty and activity are connected with the topic and the day.

Obediently to that thought we have devoted now one year and now another to the flowers, the shrubs, the birds, as well as to the general topic. Ten years have passed since the first programme was prepared. It seems to be a fitting time for the original subject of tree planting to engage our attention. Many, if not most, of those pupils who took part in the exercises of 1892 have left school. Hence there are undoubtedly some who know but little about Arbor Day.

It has, therefore, been deemed best to place the emphasis of this day upon the tree, its uses, its part in the economy of our lives, and the place it has secured in our literature. Your attention is called particularly to our own trees,—that is, those which we may call natives. The pamphlet from which this list is taken was compiled by one of the best known teachers of our State, Mr. L. W. Russell, of the Bridgham School, Providence, and will well repay careful study.

Upon the title page of this programme will be found a picture of a tree rarely excelled for its beauty. It is a view of a tulip tree to be found growing on a farm in the vicinity of Providence. Others of much the same beauty may be found in different parts of the State. Although as members of the public schools we are bound to be loyal to the tree of our choice in 1894,—the maple,—we must admit the remarkable qualities of the tulip. As a shade tree it is very beautiful and ornamental, it is easy of transplanting, and grows rapidly and luxuriantly, so that it soon comes to a good size and affords shade and comfort. When necessary to cut it, the wood is fitted to many uses.

It is frequently said that we need no trees planted in Rhode Island. Now, while it is a fact that our condition as a State does not call for that activity which is needful in many a prairie State, it still remains true that in some towns of our State the percentage of woodland is only five per cent., or less, of the whole territory. And again, in those towns where the percentage is largest, running up to over fifty per cent., there are many spots, not only about the schoolhouses, but elsewhere, where the judicious exercise of tree planting may well be carried on.

One attractive feature of Arbor Day has ever been to name for some person the trees planted. Teachers, authors, warriors, and public men generally have thus been honored. It has been suggested this year that trees be planted in honor of, and to commemorate, the late President William McKinley. Several States have adopted the suggestion, and I take great pleasure in commending the matter to your attention.

In conclusion, I wish to acknowledge a deep debt of gratitude which this department owes to you all for the lively interest you have always taken in this spring festival, and to commend it once more to your loyal support. Always remember the day will be what you make it.

Cordially yours,

THOMAS B. STOCKWELL,

COMMISSIONER.

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#### THE PURPOSE OF ARBOR DAY.

To avert treelessness ; to improve the climatic conditions ; for the sanitation and embellishment of home environments ; for the love of the beautiful and useful combined in the music and majesty of a tree, as fancy and truth unite in an epic poem, Arbor Day was created. It has grown with the vigor and beneficence of a grand truth, or a great tree.—*J. Sterling Morton.*

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No man hath ever known or said  
 How many there may be,  
 But each tree helpeth to make a shade ;  
 Each leaf to make a tree.

—*Holmes.*





# TOPICAL PROGRAMME.



*SONG.*

*SCRIPTURE SELECTION.*

*PRAYER.*

*SONG.*

*HISTORY AND USES OF ARBOR DAY.*

*SONG.*

*STUDY OF TREES.*

*SONG.*

*TREE PLANTING—WHAT AND WHY AND HOW.*

*SONG.*

*TREES IN HISTORY AND LITERATURE.*

*SONG. ADDRESS. SONG.*

*PLANTING.*

*SONG.*

## SCRIPTURE.

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### Texts About Trees: For Arbor Day.

*First Scholar.*—In the first book of the Bible, the story of the creation and the early growth of our world is given. In writing of trees these words are used :

And God said, Let the earth bring forth the fruit tree yielding fruit after his kind. And the earth brought forth the tree yielding fruit, whose seed was in itself, after his kind : and God saw that it was good. And God said, Behold I have given you every tree, in the which is the fruit of a tree yielding seed ; to you it shall be for meat. And out of the ground made the Lord God to grow every tree that is pleasant to the sight, and good for food.

*Second Scholar.*—In the dry and barren wastes of southwestern Asia, the presence of trees and their natural attendant, good water, was, and is ever, a refreshing relief to travelers. Of the children of Israel, when on their way from Egypt to the Promised Land, it is said :

And they came to Elim, where were twelve wells of water, and threescore and ten palm trees ; and they encamped there by the waters.

And in later years it was said :

And by the river upon the bank thereof, on this side and on that side, shall grow all trees for meat, whose leaf shall not fade. . . . And the fruit thereof shall be for meat, and the leaf thereof for medicine.

*Third Scholar.*—In Bible times the great value of trees was recognized. You will recall frequent mention of the cedars of Lebanon, the cypress trees, the oak, the fir, and the pine trees, all so highly prized in those days. The care of trees must have been of much importance to the people, for by one writer it is said that the tree of the field is man's life.

*Fourth Scholar.*—In the language of the orientals, the tree is frequently used as a means of comparison. In one place it is said : The man whose delight is in the law of the Lord " shall be like a tree planted by the rivers of water, that bringeth forth his fruit in his season ; his leaf also shall not wither ; and whatsoever he doeth shall prosper."

And again :

The righteous shall flourish like the palm tree ; he shall grow like a cedar in Lebanon.

*Fifth Scholar.*—The golden truth that goodness does not come out of evil, is taught in many such texts as these :

Wherefore by their fruits ye shall know them.

A good tree cannot bring forth evil fruit, neither can a corrupt tree bring forth good fruit. Even so every good tree bringeth forth good fruit ; but a corrupt tree bringeth forth evil fruit.

*Sixth Scholar.*—And in the closing book of the Bible, the blessed promise of eternal life is indicated clearly in these beautiful words :

To him that overcometh will I give to eat of the tree of life, which is in the midst of the paradise of God. . . . In the midst of the street of it, and on either side of the river, was there the tree of life, which bare twelve manner of fruits, and yielded her fruit every month ; and the leaves of the tree were for the healing of the nations.

Arranged by

Ira C. Kling.

DES MOINES, IOWA.

## ORIGIN AND HISTORY OF ARBOR DAY.

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The first to call attention in this country, in an impressive way, to the value and absolute need of trees was that eminent scholar and wise observer, Mr. George P. Marsh, for many years our worthy representative at the courts of Italy and Turkey. His residence in those older countries was calculated to draw his attention to the subject as it would not have been drawn had he always lived in his native land.

In Europe Mr. Marsh found the governments of Italy and Germany, as well as those of other countries, making active endeavors and at great expense to rehabilitate their forests, which had been depleted centuries before, to guard them from depredation, and, instead of leaving them to be consumed at the bidding of personal greed or recklessness, cherishing them as among their most precious possessions. . . . He found schools, of a grade corresponding to our colleges, established for the special purpose of training men for the successful planting and cultivation of forests. He found the growth of trees in masses and their maintenance reduced to a science, and the management of the woodlands constituting one of the most important departments of state.

Such discoveries were well calculated to fix his attention upon the very different condition of the forests in his own country, and to convince him that the reckless destruction of them then going on here, if not checked, would bring upon this land the same calamities which had befallen countries of the Old World in past centuries and from which only the most enlightened nations of Europe are now recovering, through the arduous efforts of many decades, and at great pecuniary cost. The result of Mr. Marsh's observations was the publication of a volume entitled "The Earth and Man," and to the admirable chapter on "The Woods," more than to any other source, perhaps, we are indebted for the awakening of attention here to our destructive treatment of the forests, and the necessity of adopting a different course if we would avert most serious consequences, threatening more than anything else, possibly, our material welfare.

. . . For the purpose of securing a supply of timber for naval construction the government, at the beginning of the last century, purchased certain tracts of live-oak timber, and about twenty-five years later, by an act of Congress, the President was authorized to take measures for their preservation. About the same time the Massachusetts Society for Promoting Agriculture offered prizes for forest planting, and thirty years later the State ordered a survey of her timber lands. Thirty years later still, acts began to be passed for the encouragement of timber planting, chiefly in the treeless western States. The well-known timber culture act was one of these. It made a free gift of the public lands to the successful planter of forest trees on one fourth of his entry.

About twenty-five years ago the subject of forest destruction and its detrimental results came before the American Association for the Advancement of Science for consideration, and as a result of its discussions the association memorialized Congress, asking that measures be taken for the protection of the public timber lands. In consequence of this, a committee of the House of Representatives was appointed to consider the establishment of a forestry department of the government, and two years later the Commissioner of Agriculture was authorized to appoint a forest commissioner, which was the foundation of the present Forestry Division in the Department of Agriculture.

It was at this time, or a few years earlier, that a practical movement was inaugurated by Hon. J. Sterling Morton, Secretary of Agriculture under President Cleveland. This was the establishment of Arbor Day, or tree-planting day.

Arbor Day originated in this manner: At an annual meeting of the Nebraska State Board of Agriculture, held in the city of Lincoln, January 4, 1872, J. Sterling Morton, of Nebraska City, introduced the following resolution, which was unanimously adopted after some debate as to the name, some of those present contending for the term "Sylvan" instead of "Arbor:"

*Resolved*, That Wednesday, the 10th day of April, be, and the same is hereby, especially set apart and consecrated for tree planting in the State of Nebraska, and the State Board of Agriculture hereby name it Arbor Day; and to urge upon the people of the State the vital importance of tree planting, hereby offer a special premium of one hundred dollars to the agricultural society of that county in Nebraska which shall, upon that day, plant properly the largest number of trees; and a farm library of twenty-five dollars' worth of books to that person who, on that day, shall plant properly, in Nebraska, the greatest number of trees.

The result was that over a million trees were planted in Nebraska on that first Arbor Day.

Three years later the day had attained such favor with the people that the governor, by public proclamation, set apart the third Wednesday of April as Arbor Day, and recommended that the people observe it as a day of tree planting. Annually thereafter other governors of the State followed this example, until at the session of the legislature in 1885 an act was passed designating the 22d of April, the birthday of Mr. Morton, as the date of Arbor Day, and making it one of the legal holidays of the State.

Such was its origin in the United States. Nebraska's lead was quickly followed by other states, and a few years later its observance acquired a wider interest through its connection with the public schools, and its adaptation to local needs.—*From Arbor Day: Its History and Observance.*—N. H. Egleston.

## An Old Custom Revived.

The origin of Arbor Day is attributed to the State of Nebraska. But in an old Swiss chronicle it is related that away back in the fifth century the people of a little Swiss town called Brugg assembled in council and resolved to plant a forest of oak trees on the common. The first rainy day thereafter the citizens began their work. They dug holes in the ground with canes and sticks, and dropped an acorn into each hole, tramping the dirt over them. Upward of twelve sacks were sown in this way, and after the work was done each citizen received a wheaten roll as a reward.

"Great oaks from little acorns grow," it is said, but for some reason the work was all in vain, for the seeds never came up. Perhaps the acorns were laid too deep, or it might have been the tramping of so many feet had packed the earth too firmly. Whatever the cause the acorns refused to sprout, and the townspeople sowed the same ground with rye and oats, and after the harvest they tried the acorn planting again,—this time in another way,—by plowing the soil and sowing the acorns in the furrows. But again the "great oaks" refused to grow; grass came up instead, and the people were disappointed. But an oak grove they were determined to have, so after this second failure a few wise men put their heads together, and decided to gain the desired result by transplanting. A day was appointed in October, and the whole community, men, women, and children, marched to the woods, dug up oak saplings, and transplanted them on the common. At the close of the exercises each girl and boy was presented with a roll, and in the evening the grown people had a merry feast in the town hall.

This time the trees grew. The people of Brugg were pleased and satisfied, and instituted the day of tree planting as a yearly holiday.

Every year as the day came around the children formed in line and marched to the oak grove, bringing back twigs or switches, thus proving that the oaks were thriving, and every year at the close of the parade the rolls were distributed to be eaten in remembrance of the day. This festival still exists and is known as "The Switch Parade." Our Arbor Day is only an old custom revived.—*Selected*.

Arbor Day is not only a day for tree planting, both for economic and æsthetic purposes, but its observance has been made the means of imparting much valuable knowledge in regard to plant and tree life, of cultivating in the young the faculty of observation, and kindling in their minds an interest in natural objects which will be a life-long source of pleasure.

Arbor Day and its public observance, taken with the studies connected with it, has led on naturally to the formation of town and village improvement societies and various other associations and organizations for the promotion, in one way or another, of the public welfare. The spirit of Arbor Day is benevolent. Its aim is the public good in some form, and it has a wide outlook.

Arbor Day is the one festival or celebration which . . . looks forward and seeks to make a better environment and a better inheritance for the coming generations. Its spirit is hopeful. Its motto is progress.—*N. H. Eggleston*.

We are told that the custom of tree planting is an old one among the Germans, who in the rural districts practice a commendable habit of having each member of the family plant a tree at Whitsuntide, which comes forty days after Easter.

The old Mexican Indians also plant trees on certain days of the year when the moon is full, naming them after their children; and the ancient Aztecs are said to have planted a tree every time a child was born, giving it the name of the child.—*West Virginia Arbor Day Manual, 1900*.

It will interest the school children to know that Arbor Day has not only been established in Spain, but established by a king who is a boy not older than the boys of average age in our schools, and that a great company of the pupils of the schools were associated with him in its establishment.

On the 26th day of March, 1897, the Queen Regent of Spain,—the king's mother,—and her court, went with the young King Alphonso to some grounds about two miles from Madrid. There the king, with his own hands, planted with much ceremony a young pine tree. Flags were flying and cannon boomed at the time. After the king had planted his tree, 2 000 children, who had been chosen from the public schools of the city as his associates, each planted a tree, and each child received a medal.—*Selected*.

## Arbor Day in Rhode Island.

On March 31, 1886, a resolution was passed, on motion of the late Irving M. Smith, by the Barrington Rural Improvement Society, to petition the legislature to appoint a day as Arbor Day. On the 29th of the following April the society, assisted by the pupils of the public schools of the town, planted, with appropriate ceremonies, an elm tree, dedicating it to Abraham Lincoln. The tree stands near the railroad station at Drownville, and has the honor of being the first one planted in Rhode Island as an "Arbor Day" tree. The following day the graduating classes of the high and grammar schools of the city of Providence held similar exercises at Roger Williams Park. Thus was initiated in our State this spring festival.

The petition of the Barrington society was duly presented to the legislature, and on May 6, 1887, the following act was passed: Such day as the governor of the State may appoint as "arbor day" shall be a holiday, but it shall not be lawful to require payment of notes, checks, and bills of exchange due and payable on said holiday to be made on the day next previous thereto.

The first proclamation was issued that year appointing May 20 as "arbor day." May 13, 1896, by an act of the General Assembly, the day was made a full legal holiday, and the second Friday in May was fixed as the date thereof.

## Why We Keep Arbor Day.

(For seven children. As they take their places upon stage, those in seats recite first stanza.)

Trees of the fragrant forest,  
With leaves of green unfurled,  
Through summer's heat, through winter's cold,  
What do you do for our world?

*First*.—Our green leaves catch the raindrops  
That fall with soothing sound,  
Then drop them slowly, slowly down,  
'Tis better for the ground.

*Second*.—When rushing down the hillside,  
A mighty freshet forms,  
Our giant trunks and spreading roots  
Defend our happy homes.

*Third*.—From burning heat in summer,  
We offer cool retreat,  
Protect the land in winter's storm  
From cold, and wind, and sleet.

*Fourth*.—Our falling leaves in autumn,  
By breezes turned and tossed,  
Will make a deep sponge carpet warm  
Which saves the ground from frost.

*Fifth*.—We give you pulp for paper,  
Our fuel gives you heat,  
We furnish lumber for your homes,  
And nuts and fruit to eat.

*Sixth*.—With strong and graceful outline,  
With branches green or bare,  
We fill the land through all the year  
With beauty everywhere.

*All*.—So, listen, from the forest,  
Each one a message sends  
To children on this Arbor Day,—  
“We trees are your best friends.”

—Primary Education.

The loveliest flowers the closest cling to earth,  
And they first feel the sun. So violets blue,  
\* \* \* drenched with dew,  
The happiest of spring's happy, fragrant birth.

To gentlest touches sweetest tones reply;  
Still humbleness with her low-breathed voice

Can steal o'er man's proud heart, and win his choice  
From earth to heaven, with mightier witchery  
Than eloquence or wisdom e'er could own.

Bloom on, then, in your shade, contented bloom,  
Sweet flowers, nor deem yourselves to all unknown;  
Heaven knows you, by whose gales and dews ye thrive.

—John Keble.

## Who Loves the Trees Best?

Who loves the trees best?  
“I,” said the Spring.  
“Their leaves so beautiful  
To them I bring.”

Who loves the trees best?  
“I,” Summer said.  
“I give them blossoms,  
White, yellow, red.”

Who loves the trees best?  
“I,” said the Fall.  
“I give luscious fruits,  
Bright tints to all.”

Who loves the trees best?  
“I love them best,”  
Harsh Winter answered,  
“I give them rest.”

—Alice May Douglas.

## Song For Arbor Day.

Long this little stem has grown  
In a quiet spot unknown;  
Now we plant it here to be  
Ever honored as our tree.

May the kind earth give it food,  
And warm sunlight o'er it brood,  
Shower make bright, and storm make hard,  
And no harm its growth retard.

May it give to men delight,  
Rich in shade, and fair to sight;  
And while untold years roll by  
Speak of us to memory.

Little tree, our own! we pray,  
Be our teacher every day;  
On us strength and grace impress,  
That we too the world may bless.

—Joseph Dunn Burrell.

## STUDY OF TREES.

### TABLE OF THE PRINCIPAL FOREST TREES INDIGENOUS TO RHODE ISLAND.

White oak—*Quercus alba*.  
 Swamp white oak—*Quercus bicolor*.  
 Post oak—*Quercus stellata*.  
 Chestnut oak—*Quercus prinus*,  
                     *var. monticola*.

Red oak—*Quercus rubra*.  
 Black oak—*Quercus tinctoria*.  
 Scarlet oak—*Quercus coccinea*.  
 Pin oak—*Quercus palustris*.

NOTE.—To the above list of oaks should be added to the scarlet oak the variety *ambigua* (rather scarce), the bear or scrub oak, *Quercus ilicifolia*, and the little "chinaquin" oak, a shrub scarcely five feet high.

Shagbark hickory—*Carya alba*.  
 Mockernut hickory—*Carya tormentosa*.  
 Pig-nut hickory—*Carya porcina*.  
 Bitter-nut hickory—*Carya amara*.  
 White elm—*Ulmus Americana*.  
 Slippery elm—*Ulmus fulva*.  
 Butternut—*Juglans cinerea*.  
 Chestnut—*Castanea vesca*.  
 Rock maple—*Acer saccharinum*.  
 Red maple—*Acer rubrum*.  
 White maple—*Acer dasycarpum*.  
 Black birch—*Betula lenta*.  
 Yellow birch—*Betula lutea*.  
 Gray birch—*Betula alba*.  
 Canoe birch—*Betula papyracea*.  
 White ash—*Fraxinus Americana*.  
 Black ash—*Fraxinus sambucifolia*.

American beech—*Fagus ferruginea*.  
 Blue, or water, beech—*Carpinus Americana*.  
 Ironwood—*Ostrya Virginica*.  
 Buttonwood—*Platanus occidentalis*.  
 Hackberry—False elm—*Celtis occidentalis*.  
 Basswood—*Tilia Americana*.  
 Tupelo—Snagtree—*Nyssa multiflora*.  
 Black Cherry—*Prunus serotina*.  
 Red Cherry—*Prunus Pennsylvanica*.  
 Tulip tree—*Liriodendron tulipifera*.  
 Sassafras—*Sassafras officinale*.  
 Aspen poplar—*Populus tremuloides*.  
 Large poplar—*Populus grandidentata*.  
 Balm of Gilead—*Populus balsamifera*,  
                     *var. candicans*.  
 Flowering dogwood—*Cornus florida*.

### CONE-BEARING TREES.

White pine—*Pinus strobus*.  
 Pitch pine—*Pinus rigida*.  
 Black spruce (rare)—*Picea nigra*.

Hemlock—*Tsuga Canadensis*.  
 Red cedar—*Juniperus Virginiana*.  
 White cedar—*Cupressus thyoides*.

\**Native Trees of Rhode Island.* Levi W. Russell.

Do you know the trees by name  
 When you see them growing  
 In the fields or in the woods?  
 They are well worth knowing.

Watch them in the early spring,  
 When the buds are swelling;  
 Watch each tiny little leaf  
 Leave its little dwelling.

Watch them later, when their leaves  
 Everywhere are showing;  
 Soon you'll know the different trees  
 When you see them growing.

— *Selected.*

\*Copies may be had upon application to the Commissioner of Public Schools.

## THE TULIP TREE

"The North Carolina poplar, or tulip tree, of which ordinary care has been taken, is likely to be a thing of arboreal thrift and beauty. This tree takes so kindly to urban surroundings, such quick results follow its setting out, that it is bound in time to become a general favorite with the tree-planting fraternity. A mere fishpole of a sapling becomes a sizable little tree the very first season of transplanting, acquires shade throwing dimensions, and at the end of say five years there is a larger and finer tree in evidence than any hardwood sample could hope to rival in ten or even in twenty years."

"Trees transplanted from the woods unless they are very small do not succeed, and this has given the impression that the tree is difficult to manage. It is easily raised from seeds, and nursery trees produced in this way and transplanted a few times may be removed without difficulty."

To what age the tulip tree is capable of attaining is unknown, but in Asheville, on Reems's creek, one of the variety, known to all the country round about as "The Big Tree," is known beyond doubt to be over 200 years of age. Six feet above ground its circumference is 31 feet, and from that point to a height of 60 feet, when it begins to branch out, it hardly diminishes in size. Specimens of the *Liriodendron tulipifera* have reached to a height of 140 feet.

The bark of young branches is light brown and smooth, but on old trees it is much broken by longitudinal fissures. In spring the development of no tree can be studied with greater interest. As the large leaf buds open they are found to be covered by two stipules, coherent by their edges to form a sac, and beneath these the young leaf, to which they belong, will be found closely folded and its petiole bent over. Beneath this is another leaf similarly covered and packed away, and so on. As the leaf develops, the stipules increase in size and soon fall away leaving a scar just above the petiole. The leaves on long petioles are four inches or more across, with two lobes near the base and two at the apex where the leaf appears as if it had been abruptly cut off, leaving a very broad, shallow notch.

Its flowers are solitary and terminal; the bud is enclosed by a sheath, which is pushed off as the flower opens. They consist of three long reflexed sepals and six petals, which are arranged in two rows to form a bell-shaped corolla two inches or more long, within which are numerous stamens, surrounding a cone-like mass of pistils, crowded upon a long, slender axis.

"The trees are almost wholly free from disease, and from insect pests, and the asphaltting of the streets does not appear to affect them detrimentally. They can be permitted to grow naturally, in which case they throw out graceful plume-like boughs, or they can be trimmed every fall, which tends to thicken them in the bole and broaden them in the top."—*Providence Journal*.

## HOW TREES EAT.

The materials upon which a tree feeds are derived from the soil and the air. The minute root hairs take up water from the ground, and with it substances which are held in solution. The water which contains these materials goes straight from the roots to the leaves, in which a most important process in feeding of the tree goes on,—the taking up and breaking up, by the leaves, of carbonic acid gas from the air. This process goes on only in the presence of light and heat, and through the action of chlorophyll, a substance from which the leaves and the young bark get their green color. Plant cells which contain chlorophyll break up the carbonic acid gas with which they come in contact, retain the carbon, one of its elements, and send back the other, oxygen, into the air. Then, still under the influence of the sunlight, they combine the carbon with the oxygen and hydrogen of the water from the roots into new chemical compounds, in which nitrogen and the earthy constituents mentioned above are also present; the food materials which reach the tree through the roots and leaves are first digested in the leaves somewhat as food is digested in the human body, and are then sent to all living parts of the roots, stem, and crown, where they pass through another process of digestion, and then are either used at once in growth, or stored away until the proper moment arrives. This is the general rule, but it is



believed that in some cases food taken up by the roots can be used without first being digested in the leaves.

#### HOW THE TREE BREATHES.

All plants, like all animals, breathe; and plants, like animals, breathe in oxygen and breathe out carbonic acid gas. The trees take in oxygen from the air through their leaves, and through the minute openings in the bark called lenticels, such as the oblong raised spots or marks on the young branches of birch, cherry, and many other trees. This process of breathing goes on both day and night, but it is far less active than assimilation, which takes place only in the light. Thus through the process of assimilation and breathing, more carbonic acid gas is taken into the tree than is given out, and the surplus carbon remains to be used in growing.

#### HOW THE TREE GROWS.

Except in the buds, leaves, fruit, and the twigs less than a year old, the new material which goes into the growth of the tree is deposited in a thin coat over the whole tree between the wood and the bark. The new twigs grow in length by a kind of stretching, but only during the first year. Thus a tree increases in height and in spread of branches only by means of these youngest twigs. After the first year their length is fixed, younger twigs stretch out from the buds, and the older ones grow henceforth only in thickness. This fresh coat of new material covers them year by year.—*Wisconsin Arbor and Bird Day Annual, 1900.*

#### WHAT WE OWE TREES.

Did you ever stop to think how much we owe to trees? Let us see.

You have learned in school that trees purify the air by taking out of it gases which are hurtful to man, and also that they purify the springs of water at their roots; consequently you understand why it is that terrible fevers have so often followed the cutting down of forests in a new country. But do you know, too, that the health-giving quality of trees is only one of their many virtues?

Not the least of these is the prevention of floods, and the drouths which follow floods. You will wonder how this is. Now you know that if you hang out a piece of wet cloth in the sun and wind it will become quickly dry. The water in it has evaporated. So it is with the open spaces where there are no trees. And the moisture which has all at once been absorbed by the air is discharged in torrents instead of in gentle rains, as would be the case if there were trees and it was absorbed gradually. Here again comes in the question of health, for floods and drouths are as hurtful to man as to the soil which suffers from them.

A way in which trees help us greatly, which is not often thought of, is, by preventing so great extremes of heat and cold as there would otherwise be. Your geographies tell you how the ocean equalizes the climate of places upon it. It is upon the same principle that trees modify climate, though in a lesser degree.

Their effect upon desert land should be spoken of as well. It has been found that, where trees have been planted to keep off the winds of the ocean from such land, in a short time crops could be raised. This is because the winds take up moisture very quickly. When they cease to blow, therefore, or blow less hard, the rainfall is increased. Indeed, it has been thought that even the terrible Sahara desert itself might be made fertile by planting trees. It is known that springs of water in the oases disappear if the trees are for any reason destroyed, and also that new springs appear in the spots where they have been made to grow.

None, perhaps, can appreciate so fully their loveliness and charm as those who have crossed the desert plains of the great West. How the passengers on the overland train crowd about the little plats of grass (carefully guarded by iron fences), where trees are growing, while such exclamations as "Oh! don't they look good?" "How it rests one to see those trees!" "I never appreciated trees before!" are heard on every side.

Now of their use as homes for birds and animals.

See that nest on the top bough? Hear those robins twittering from the leafy sprays above our heads, while from bough to bough dart the nimble squirrels, peering at us with sharp eyes as much as to say,—“O, you poor people, you have to be shut up in boards and bricks and roofings. You are to be pitied! Don’t you envy us, and wish you were as free as we?” And the woodpecker taps, taps away on the old trunk industriously getting his dinner. Ah, these, our lesser brothers and sisters, would be bereft indeed were they deprived of their leafy habitations!—*Eleanor Root.*

## Facts About Trees for the Little Ones.

(A RECITATION.)

1. Cutting down trees spoils the beauty of the landscape. I would not like to live where there were no trees.
2. There are few birds where there are no trees. They have no place to make their homes.
3. Taking away the trees takes away the protection from our tender fruit trees.
4. Where there are no trees the snows melt and go off too rapidly; the moisture that should sink into the soil is carried away in floods.
5. Because our forests are taken away we have severe droughts every year.
6. One full grown elm tree gives out fifteen tons of moisture in twenty-four hours. A large sunflower plant gives off three pints of water in one day.
7. The trees give us lumber, fuel, wood, pulp for newspapers, cork, bark for tanning, wild fruits, nuts, resin, turpentine, oils, and various products for medicines.
8. We should have greater extremes of heat and cold if it were not for the trees and forests.
9. The leaves of trees catch the rain and hold it a little while; then they drop the water a little at a time; this is better for the ground.
10. The old leaves make a deep sponge carpet in the woods, and this keeps the ground from freezing. If the earth does not freeze it takes up the rain better.
11. We might have dangerous floods if we did not have trees. The trunks and roots of trees stop the water that comes pouring down the hillside.
12. I will be very careful not to hurt any tree, but will call every tree my friend.—*Primary Education.*

## The Popular Poplar Trees.

When the great wind sets things whirling,  
And rattles the window-panes,  
And blows the dust in giants  
And dragons tossing their manes;  
When the willows have waves like water,  
And children are shouting with glee;  
When the pines are alive and the larches,—  
Then hurrah for you and me,  
In the tip o’ the top o’ the tip o’ the tip of the pop-  
ular poplar tree.

Don’t talk about Jack and the Beanstalk—  
He did not climb half so high!  
And Alice in all her travels  
Was never so near the sky!  
Only the swallow, a-skimming  
The storm-cloud over the sea,  
Knows how it feels to be flying—  
When the gusts come strong and free—  
In the tip o’ the top o’ the tip o’ the tip of the popu-  
lar poplar tree!

—*Blanch Willis Howard.*

## The Hemlock Tree.

O Hemlock tree! O hemlock tree! how faithful are  
thy branches!  
Green not alone in summer time  
But in the winter’s frost and rime!  
O hemlock tree! O hemlock tree! how faithful are  
thy branches.

From the German, —*Longfellow.*

The maple does not shed its leaves  
In one tumultuous scarlet rain;  
But softly when the south wind grieves,  
Slow—wandering over wood and plain  
One by one they waver through  
The Indian summer’s hazy blue,  
And drop at last, on the forest mould,  
Coral, and ruby, and burning gold.

—*Edna Dean Proctor.*

## The Real Tree.

What a strange underground life is that which is lead by the organism we call *trees*! These great fluttering masses of leaves, stems, boughs, trunks, are not the real tree. *They* live underground, and what we see are nothing more nor less than their *tails*.

Yes, a tree is an underground creature, with its tail in the air. All its intelligence is in its roots. All the senses it has are in its roots. Think what sagacity it shows in its search after food and drink! Somehow or other, the rootlets, which are its tentacles, find out there is a brook at a moderate distance from the trunk of the tree, and they make for it with all their might. They find every crack in the rocks where there are a few grains of the nourishing substance they care for, and insinuate themselves into its deepest recesses. When spring and summer come, they let their tails grow, and delight in whisking them about in the wind or letting them be whisked about by it; for these tails are poor passive things, with very little will of their own, and bend in whatever direction the wind chooses to make them. The leaves make a deal of noise whispering. I have sometimes thought I could understand them, as they talk with each other, and that they seemed to think they made the wind as they wagged forward and back. Remember what I say. The next time you see a tree waving in the wind, recollect that it is the tail of a great underground, many-armed, polypus-like creature, which is as proud of its caudal appendage, especially in the summer time, as a peacock of his gorgeous expanse of plumage.

Do you think there is anything so very odd about that idea? Once get it well into your head and you will find it renders the landscape wonderfully interesting. There are as many kinds of tree-tails as there are of tails to dogs and other quadrupeds. Study them as Dady Gilpin studied them in his "Forest Scenery," but don't forget that they are only the appendage of the underground vegetable polypus, the true organism to which they belong.—*Oliver Wendell Holmes, in "Over the Tea Cups."*

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## The Oak.

What gnarled stretch, what depth of shade is his?

There needs no crown to mark the forest's king;  
How in his leaves outshines full summer's bliss!

Sun, storm, rain, dew; to him their tribute bring,  
Which he, with such benignant royalty

Accepts, as overpayeth what is lent;  
All nature seems his vassal proud to be,

And cunning only for his ornament.

How towers he, too, amid the billowed snows,

An unquelled exile from the summer's throne,  
Whose plain, uncinctured front more kingly shows,

Now that the obscuring courtier leaves are flown,  
His boughs make music of the winter air,

Jeweled with sleet, like some cathedral front  
Where clinging snowflakes, with quaint art, repair

The dents and furrows of Time's envious brunt.

How doth his patient strength the rude March wind

Persuade to seem glad breaths of summer breeze,  
And win the soil that fain would be unkind,

To swell his revenues with proud increase!  
He is the gem; and all the landscape wide

(So doth his grandeur isolate the sense)  
Seems but the setting, worthless all beside,

An empty socket, were he fallen thence.

So, from oft converse with life's wintry gales,

Should man learn how to clasp with tougher roots  
The inspiring earth—how otherwise avails

The leaf creating sap that sunward shoots?

So every year that falls with noiseless flake

Should fill old scars up on the stormward side,

And make hoar age revered for age's sake,

Not for traditions of youth's leafy pride.

So, from the pinched soil of a churlish fate,

True hearts compel the sap of sturdier growth,

So between earth and heaven stand simply great,

That these shall seem but their attendants both;

For nature's forces, with obedient zeal

Wait on the rooted faith and oaken will,

As quickly the pretender's cheat they feel,

And turn mad Pucks to flout and mock him still.

Lord! all Thy works are lessons—each contains

Some emblem of man's all-containing soul;

Shall he make fruitless all Thy glorious pains,

Delving within Thy grace an eyeless mole?

Make me the least of Thy Dodona-grove,

Cause me some message of Thy truth to bring,

Speak but a word through me, nor let Thy love

Among my boughs disdain to perch and sing.

—James Russell Lowell.

## Playing School.

FIRST PUPIL—Come, boys and girls, let us play school. I will be the teacher, and you shall tell me what you have learned for Arbor Day.

John, will you tell us about a seed?

JOHN—A seed contains the life of a young plant. It has a tiny stem, some seed leaves, and a bud. The mother tree also gave it a little outfit in the form of starch, stored up in a fold surrounding the thick seed leaves. The young oak or maple lives on the starch, just as young chicks while in the shell are nourished by the yolk of the egg.

Frank, will you tell us about Nature's tree planters?

FRANK—Squirrels plant nuts, and seeds are scattered by the winds and by the birds.

Mary, will you compare the tree to the human body?

MARY—The tree receives its nourishment from the roots; these correspond to the mouth in the human frame. The tree's lungs are the leaves. A large quantity of water passes upward from the soil, through the trunk, the branches, and every twig of the tree, to the leaves. Arrived at the leaves, contact with the air causes a large amount of water to be given off, and the nutriment which is left is carried back and deposited in leaf, bark, and root.

George, will you tell us how the trees are like a State?

GEORGE—A tree must be like a State because it is composed of many members. A tree is a kind of community by itself. The leaves and the limbs are constantly striving to see which shall have the most room and the most sunshine. Through this struggle the strongest of the buds survive. Each leaf helps to sustain the limb which carries it, and each limb furnishes some nourishment to the common trunk for the common welfare. The tax is always levied according to the ability of each to contribute. With plenty of room the trunk will be short, the branches many and wide-spread; where crowded, the lower limbs perish for want of light.

FIRST PUPIL—You have recited very nicely, and I think we may all rejoice in the feeling of a brotherhood with the trees.—*Iowa Arbor Day Leaflet, 1892.*

Faint murmurs from the pine-tops reach my ear,  
As of a harp string touched in some far sphere—  
Vibrating in the lucid atmosphere.  
Let the soft south wind waft its music here.

—T. B. Aldrich.

Full in the midst a spreading elm displayed  
His aged arms, and cast a mighty shade,  
Each trembling leaf with some light vision teems,  
And leaves impregnated with airy dreams.

—Virgil.

## The Tulip Tree.

Now my blood with long-forgotten flectness,  
Bounds again to boyhood's blithest tune,  
While I drink a life of brimming sweetness  
From the glory of the breezy June,  
Far above, the fields of ether brighten;  
Forest leaves are twinkling in their glee;  
And the daisy snows around me whiten,  
Drifted down the sloping lea!

On the hills he standeth as a tower,  
Shining in the morn, the tulip tree!  
On his rounded turrets beats the shower,  
While his emerald flags are flapping free;  
But when summer, 'mid her harvest standing,  
Pours to him the sun's unmingled wine,  
O'er his branches, all at once expanding,  
How the starry blossoms shine!

Wind of June, that sweep'st the rolling meadow,  
Thou shalt wail in branches rough and bare,  
While the tree, o'erhung with storm and shadow,  
Writhes and creaks amid the gusty air,  
All his leaves, like shields of fairies scattered,  
Then shall drop before the north wind's spears,  
And his limbs, by hail and tempest battered,  
Feel the weight of wintry years.

Yet, why cloud the rapture and the glory  
Of the beautiful, bequeathed us now?  
Why relinquish all the summer's story,  
Calling up the bleak autumnal bough?  
Let thy blossoms in the morning brighten,  
Happy heart, as doth the tulip tree,  
While the daisy's snows around us whiten,  
Drifted down the sloping lea! —Taylor.

## TREE PLANTING.

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### THE CHOICE OF TREES.

1. *General Considerations.*—Trees for school grounds and yards, along roadsides and streets, must be such as are least liable to suffer from injuries; they should be compact and symmetrical in shape, free from objectional habits, such as bad odors, root-sprouting, frequent dropping of parts, etc., and from insect pests, and, if planted for shade, should have a broad crown and a dense foliage, budding early in the spring and retaining leaves long into the fall.

*Trees native to the region* in which the planting is done usually have more promise of success and are generally less costly than exotics. Trees from *well managed nurseries* are preferable to those grown in the forest, because their root-system is better prepared for transplanting. Rapidly growing trees, although giving shade soonest, are mostly short-lived and become the soonest unsightly.

2. *Size.*—Although as a rule small plants have a better promise of success, other considerations recommend the choice of larger sizes for roadside and ornamental planting. Trees of any size can be successfully transplanted, but in proportion to the size grows the difficulty, the amount of work, and the care necessary. As a rule the *largest size should not exceed 2 to 3 inches* in diameter at the base and 10 to 15 feet in height. Those one half that size will probably make better growth, because less of their root-system will be curtailed in taking them up for transplanting.

3. *Diagnosis of a tree suitable for transplanting:*—*a.* An abundance of fibrous roots.

*b.* A normal form and well proportioned development of shaft and crown.

*c.* The position from which the tree came has some influence on its further development.

Trees from the forest have generally a wide spreading root-system, which is difficult to take up and transplant. Those which have grown in the shade of the forest as a rule, do not start easily in the open sunlight; those from cool north sides are apt to sicken when placed on hot exposures, and vice versa. A healthy tree from poor soil transferred into better conditions will show itself grateful by vigorous development.—\**Arbor Day Planting in Eastern States.*

### HOW TO PLANT THEM.

Few people know how to plant a tree. Transplanting is an artificial process, requiring both knowledge and care. If there is a skilled tree planter in the neighborhood, interest him in Arbor Day, take his advice about the better trees to plant first and their location, and get him to see that roots and branches are properly pruned, that the holes are of proper size and depth, that the soil is filled in around the roots as it should be, and that the tree is properly protected. If he will let the older pupils assist him in doing the actual work, and afterward talk to them in a simple, direct way about the care of the trees, so much the better. Be sure to give him the opportunity.—*Alfred Bayliss, in Illinois Arbor Day Circular, 1899.*

### SPECIAL RULES.

The time for transplanting trees varies with the locality and the season. Trees should be moved before they have budded and blossomed, for after the leaves have opened they cannot obtain sufficient nourishment from the newly planted roots, and after sapping the life from the tree, wither and die.

\* Circular No. 5, Forestry Division, U. S. Dept. of Agriculture. Copies of this circular in limited numbers may be had by application to the Commissioner of Public Schools.

As a rule trees must have good soil in which to grow. In planting street trees make sure of success by properly preparing the soil where they are to stand. In all gravelly and poor soil dig a hole six or ten feet across and two or three feet deep (it can not be too large), remove the poor soil and replace with good, in which to plant the tree. In very poor soil this is absolutely necessary.

The site for planting should be intelligently chosen ; then the variety suited to the peculiar soil and situation and use for which it is intended should be considered. It is preferable to plant nursery grown trees, which have already been once or twice transplanted and have thus acquired a good root system. In receiving plants from nurseries notice particularly two points : First, that the plants have good roots that have not been unnecessarily shortened or reduced in removal ; and secondly, that the roots have not been dried or injured by frost. This can be determined by cutting off some of the ends of the roots. If the bark on them when cut into appears white and fresh and separates easily from the wood, they are sound and can be trusted. Roots should not be exposed to the sun or drying winds while being transported, but should be kept moist with a covering of straw, moss, or canvas. The feeding roots are easily destroyed by exposure and their loss deprives the tree of much of its power to withstand removal successfully. This is especially true of evergreens, because of their being covered with foliage all the year.

Native trees growing near in similar soil can hardly fail to flourish if properly transplanted. Trees that have grown in open places are hardier and will bear transplanting better than those that have grown under the protection of the deeper woods. Such trees, moreover, like those from the nursery, have an abundance of fibrous roots, on which the tree must rely for support, until its stronger roots have had time to lay hold of the moist subsoil beneath.

In planting the tree, place the roots naturally as deep, or a little deeper if in loose, poor soil, than when they were dug. Force the soil among the roots firmly, working it carefully with the hand under the stem of the tree, and leaving no open spaces among the roots. The roots should not be permitted to come in contact with decaying matter of coarse, unfermented manure. Should the season be dry and warm, water may be poured in from time to time to settle the fine soil about them, but do not drench them. More trees are probably killed by too much water in transplanting than by too little ; but *never* wet the soil at or near the surface. The surface should be leveled, or, better, slightly rounded about the trunk of the tree. Then a mulch of coarse manure is helpful, for it keeps the surface moist, and its richness will reach the roots gradually in a diluted form. A mulch of straw, leaves, or coarse hay is better than none at all. After the soil is properly firmed about its roots the tree should not be neglected and suffered to fall a prey to insects or fungus, or allowed to starve for lack of food or water, or to be loosened by the wind. Stake it carefully and firmly, or insure it against accident with a tree box.

In choosing trees remember that the silver maple, Carolina poplar, and box elder are easily transplanted and grow rapidly where nothing else will live, but do not last long ; that the sugar maple, red maple, linden, and elm are the best for street and lawn ; that the tulip tree, red oak, willow oak, black cherry, and sweet gum are also desirable ; and that for special positions it is well to give choice to the sycamore, black birch, ash, beech, chestnut, or black walnut.—*Selected.*

The planting of a tree, the tender care bestowed upon it, the eager watching for new developments in its growth, the tending of a flower bed, the training of a vine, will for many a child prove the "open sesame" into the charmed circle of those forces and factors of the natural world which purify, refine, and ennoble the heart of man. The process itself cannot be indicated. It is secret, silent, past finding out. It is a growth—that subtle something, which is forever escaping the clutch of the keenest investigator, only to find easy access to the soul of him who hath eyes to see and ears to hear what is revealed of the infinite in the finite order of creation.—*Geo. Mull.*

## The Tree Planters.

We are building for the future ;  
Every loyal youth and lad,  
In his April seed or sapling  
Founds a dwelling green and glad,

Where the song birds of the morning  
Round their cradle-homes will play,  
And the rain will store its treasure  
For the streams that wear away.

—*School Songs.*

### NATURE'S TREE PLANTERS.

**Squirrels:** The squirrels eat many nuts, but carry a portion to some distance in every direction, where they plant one or two in a place. It may be the thought of the squirrel to return at some future time of need, but his bump of locality is not well developed or he has laid up more than he needed. At all events some of the nuts are allowed to remain where he planted them. In this way he is a benefit to the trees, and pays for the nuts which he eats. He has not lived in vain, for he is a tree planter and believes in arboriculture. His Arbor Days come in autumn, and he needs no Governor's message to stimulate him to work.

**Birds:** Many of our trees and shrubs produce a fleshy fruit or berry. Among them are the mountain ash, service berry, cherry, holly, mulberry, sassafras, wild plum, persimmon, cedars, and junipers. Many of these when ripe are rendered conspicuous by brilliant colors. The fruits are eagerly sought by grouse, turkeys, deer, bears, and other animals. In most cases the seeds of such fruits are protected by a very firm covering and are not digestible. They are sown broadcast by wild animals under circumstances most favorable for germination. The birds, too, belong to the society of tree planters.

**Winds:** Some trees produce dry seed or seed-pods, and usually drop only a portion in autumn. They hold on to some seeds with considerable tenacity. Among these are the buttonwood, basswood, ironwood, blue beech, box elder, hop tree, tulip tree, ash, catalpa, locust, Judas tree, birches, alders, larches, pines, spruces. The fruit or the seed is thin or provided with wings, which distribute them as they fall or after they have fallen. In winter it needs but a slight packing of the snow to bear up the seeds. At such times some of the seeds are torn from the trees by the wind, and may be seen sliding along like miniature ice boats, often half a mile or more from the nearest tree. The wind also aids in transporting the seeds of our elms, maples, willows, and poplars.—*Selected.*

## Choosing The Tree.

Come, happy children, with footsteps light,  
To the cool green woods away !  
Let us choose a tree that is young and strong  
To plant on Arbor Day.

Shall it be the beech with its folded leaves  
And its trunk so rough and brown ?  
Or the maple whose crimson blossoms burn  
While softly drifting down ?

Here is the chestnut that turns to gold  
When the summer days are dead,  
And here the oak that then shall wear  
A robe of russet red.

Here are the linden's pointed buds,  
And the sweet gum's spicy smell,  
And the graceful elm whose drooping boughs  
The bluebirds love so well.

The silver birch, like a white clad ghost,  
'Mid the other trees is seen ;  
And the wild plum drops her blossoms now,  
To open leaves of green.

Which shall it be, Oh, children dear ?  
We may choose what'er we will,  
For a hundred others as fair as these  
Are left in the forest still.

But see that the roots are strong and firm,  
And the sap is running gay,  
And carefully bring it from the woods  
To plant on Arbor Day.

—*Angelina W. Way.*

## TREES IN HISTORY AND LITERATURE.

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### TREES AND SCHOOLS.

If any persons should be peculiarly interested in trees it would seem to be those who are at school and who are especially engaged in the use of books, for the word book is the same as the old English or Anglo-Saxon word *boc*, which means a beech tree. The German *buch*, book, is almost the same as *buche*, beech; and substantially similar words are found in the Danish, Icelandic, and Gothic languages, because before the invention of printing the books of people speaking these languages were written commonly on pieces of the bark, or wood of the beech trees.

Then, those who are studying Latin know that the word *liber* means both bark and book, which points to a similar usage. And those who have entered upon the study of the Greek language have learned that *biblos*, which means book, also means the inner bark of the papyrus plant, because the old Egyptians used to write upon its smooth and white surface. From the name of this plant again comes directly and easily our word paper, while to go back to *liber*, we have from that our word library, or a collection of books, and from *biblos* again our word Bible, or the book of books. And now our books are often literally made of the trees. Only, instead of taking chips or blocks of the beech tree to write upon, as our ancestors did, we grind the trees up into pulp, and having spread it out into thin sheets, the printer then prints upon them lessons of geography, or arithmetic, or history, and lo, the beech tree and other trees also come into the schoolroom to help us in our studies. Every time, also, that we turn the leaves in our books we are reminded of the trees, which have given us the word. And then, the word *academy* causes us to think of the trees, for it points us back to that celebrated school which Plato, the Greek philosopher, taught in the grove of Academus. It was a school among the trees. It was as he walked with his pupils under the branches of the trees that he taught those lessons of wisdom which have been the delight of scholars down to our own time.

Fitly, then, are the pupils in our schools invited to take part in the observance of Arbor Day, and if there is any spot peculiarly appropriate for the planting of trees on such an occasion it is that where children assemble for instruction, that thereby they may have around them the beauty and pleasantness which trees afford and every school place may become another "grove of Academe."—*N. H. Eggleston.*

### HISTORIC TREES.

*Charter Oak.*—The famous old charter oak, of which Connecticut is so proud, seems destined to be kept in remembrance, not only by the pages of history, but through its descendants. A few "children" and many "grandchildren" of the original tree are now growing in that and other states. As is quite fitting, Hartford possesses upon Bushnell park what is believed to be the largest and most thrifty seedling of the charter oak that has been placed upon public ground.

Aside from its associations and simply as a handsome specimen of the *Quercus alba*, or white oak, famed in all ages for its strength and durability, the tree is worthy of attention. The tree has just completed 50 years of growth and gives promise of continuing several hundred

*Copies of the Arbor Day programme for 1899, on Historic Trees, may be had upon application to the Commissioner of Public Schools.*



years. It now measures over 40 feet in height, 30 inches in largest diameter at the surface of the ground and 18 inches through the trunk at a point three feet from the ground, while the branches, measured from the trunk, extend over a radius of from 18 to 24 feet. True to its nature as a white oak, many of the leaves hang on through the winter until loosened by the swelling buds of spring.

The authenticity of the tree as a true descendant of the charter oak is beyond question, and all facts connected with it can be easily verified by any one interested. Its history is as follows: In October, 1847, Samuel Whitman, a well-known citizen of West Hartford, when a young man fresh from Yale and having a fondness for botany, walked to the south part of the city in search of specimens of fringed gentian. Coming back, he turned aside at the Wylls place and picked up several acorns under the charter oak.

These were planted in a flowerpot. Two coming up in November of the same year were carefully tended during the winter, and later were set out in a small nursery near Mr. Whitman's home in West Hartford.

In 1866 one of the trees, which had developed very finely, was offered by Mr. Whitman to the park board and gladly accepted. Late in that year, not far from December 31, the tree was carefully prepared and moved to its present place.

*The Washington Chestnut.*—After the retreat of the American army into Westchester county, the commander-in-chief spent most of his time in the saddle, riding from point to point, superintending the construction of redoubts and earthworks and locating camps for the different divisions of his army. But as he had not yet removed his headquarters from the Roger Morris house on Harlem heights it frequently happened that he was overtaken by night when far from home. On one of these occasions he bivouacked under the chestnut tree that now bears his name.

The great chestnut, however, stands in no need of such traditions to bolster up its fame. It has an authentic history of sufficient interest to render it worthy of preservation. There is excellent authority for the belief that under its spreading branches the chief men of the Manhattan and Wickquaskeek tribes of Indians met in frequent council at an early period in colonial history. If it possessed the power of speech, it could tell many a thrilling tale of savage cruelty and savage fortitude, for to it the red men brought their captives to put them to the torture.

Another great chestnut in the vicinity that is worthy of a visit stands on the grounds of the Leake and Watts Orphan Asylum. It is possibly second only to the Washington chestnut in age and size of all the trees in Westchester county, for it is said to be nearly 400 years old, and its circumference near the base of the trunk measures 18 feet 3 inches. In laying out their grounds the managers of the institution wisely decided to preserve it on account of its antiquity, and it now stands like a giant sentinel in the middle of the lawn that slopes from the asylum building to the public highway.—*Selected.*

#### TREES IN POETRY.

In all ages man has given to trees a kind of veneration unlike that given to any other form of nature. The ancient Greeks carried this sentiment so far that they came to believe that the trees were peopled with beings almost, if not quite, divine in their natures. These divinities were known as dryads, or hamadryads, and were supposed to be born when the tree began its growth, and to die when the tree died. There is an old story that a beautiful damsel named Lotis, in order to be saved from a pursuer, was changed into a tree which has since that time been called the Lotus.

The old Greek poet, Homer, has much to say in his story, "Ulysses," about the Lotus, and the English poet, Tennyson, has written a beautiful poem describing the Lotus and its remarkable fruit, which, when eaten, caused the person who ate it to forget friends and home and native land.

Homer wrote a great deal about other kinds of trees. Here is his description of the grove surrounding the palace of Alcinous, at which Ulysses arrived after being wrecked from his raft. It is translated from the Greek by Bryant :

A hedge enclosed it round, and lofty trees  
 Flourished in generous growth within,—the pear  
 And the pomegranate, and the apple tree  
 With its fair fruitage, and the luscious fig  
 And olive always green. The fruit they bear  
 Falls not or ever fails in winter time  
 Nor summer, but is yielded all the year.

Other ancient writers have had much to tell about those wonderful apple trees which produced apples of solid gold, and I doubt not there are some people now living who think the chief use of a tree, whether it be apple or pine, is to bring in golden returns.

The Latin poet, Virgil, in his epic poem, "The Aeneid," tells of a tree known to the Cumæan Sybil quite as remarkable as the one which was said to bear the golden apples, having a branch on which were bark and leaves of solid gold.

Poets who have written in English have given us so many excellent descriptions of trees that it is impossible to do justice to them in so brief a sketch as this. Lowell speaks thus of Chaucer, the father of English poetry : "Chaucer, whose fresh woods throb thick with merle and mavis all the year," from which it will be inferred that this early poet was a lover of nature at first hand.

A peculiar description of a forest is found in the long, unfinished poem, "The Fairie Queene," written by Spenser three hundred years ago.

Milton, in "Paradise Lost," gives a description of the trees in the Garden of Eden.

Scott's writings rustle with the forest leaves scattered all through them, and Tennyson and Wordsworth have left for us many fine stanzas about trees.

We must not neglect our American poets, for they have said some of the best things in the whole range of the literature of this subject. Take a copy of Bryant's poems and notice for yourselves how many of the pieces are almost wholly devoted to trees ; as "Autumn Woods," "A Forest Hymn," and "The Planting of the Apple Tree." Dr. Holmes shows in many ways his admiration of the New England elms, especially those on Boston Common. In the "Breakfast Table" books, the wise and witty doctor has put on record many poetic things, though for the most part in the form of prose, about the "Great Elm" and the "Long Walk" with its canopy of branches. The scenes described as taking place amid these historic groves are a combination of poetry and science expressive of human joys and hopes and aspirations which it is hard to match elsewhere in literature.

What a romantic charm is given to the beginning of "Evangeline" by the description of a primitive forest !

Have you heard of the wonderful cypress tree of Ceylon ? It is quite as wonderful as the one with the golden branch or the one that furnished the golden apples. Like the fountain for which De Leon searched, this tree had the power to restore lost youth. An old legend says that at certain times this cypress let fall its leaves and the person who found and ate one of them became at once young again. Suppose you read Whittier's poem about the tree and the way the old men wait under it for the leaves to fall. The Quaker poet draws from it a lesson worth remembering. He has given us another fine poem on the palm tree.

We can hardly see or think of trees without being reminded of Lowell. He was eminently a lover of trees, and they were the inspiration of some of his best prose and poetry. This love of trees led him to call his pleasant place of residence, in Cambridge, "Elmwood." "Under the Old Elm" is a poem in which he shows the influence of the historic connection between that famous elm at Cambridge, known as the Washington elm, and the great character after whom it was so named. I know of no other equally vivid word picture of the father of his country.—

*W. J. Brier.*

## Arbor Day Alphabet.

[For twenty-six small children.]

BY ADA SIMPSON SHERWOOD.

[Let each child wear or carry his letter, made of green leaves, and, as far as possible, carry branches or twigs of the tree of which he speaks.]

- |   |   |
|---|---|
| <b>A</b> is for <i>apple tree</i> , sweet with bloom,<br>Or laden with golden fruit.                | <b>N</b> is for <i>Norway pine</i> , which still<br>Is whispering to the breeze.                  |
| <b>B</b> is for <i>beech</i> , with thick, cool shade,<br>And the <i>birches</i> of ill repute.     | <b>O</b> is for <i>orange</i> , blooming for brides,<br>And the <i>olive</i> , yielding rich oil. |
| <b>C</b> is for <i>chestnut</i> and <i>cedar</i> fair,<br>And <i>cypress</i> , where sorrows abide. | <b>P</b> is for <i>poplar</i> , reaching high,<br>And the <i>palm</i> of the southern soil.       |
| <b>D</b> is for <i>dogwood</i> , whose fair white tents<br>Are pitched by the river side.           | <b>Q</b> is for <i>quince</i> , in our gardens low,<br>With its fruit so sour and green.          |
| <b>E</b> is for <i>elm</i> , New England's pride;<br>True patriot's love they stir.                 | <b>R</b> is for <i>redwood</i> , giant trees,<br>The largest that can be seen.                    |
| <b>F</b> is for <i>fig tree</i> of the South<br>And the cone-shaped northern <i>fir</i> .           | <b>S</b> is for <i>spruce</i> , bright evergreen,<br>And the silvery <i>sycamore</i> .            |
| <b>G</b> is for <i>gum tree</i> , so well known<br>To the southern girls and boys.                  | <b>T</b> is for <i>tulip tree</i> , broad and high,<br>With its beautiful tulip-like flower.      |
| <b>H</b> is for <i>hemlock</i> , steadfast tree,<br>And for <i>holly</i> with Christmas joys.       | <b>U</b> is for <i>upas</i> , tropical tree,<br>With its fabled poisoned air.                     |
| <b>I</b> is for <i>ironwood</i> , firm and strong,<br>And the <i>ivy</i> that twines around.        | <b>V</b> is for <i>vines</i> that cling to the tree<br>For friendship, strength, and care.        |
| <b>J</b> is for <i>juniper</i> , low and green,<br>Where purple berries are found.                  | <b>W</b> is for <i>walnut</i> , dark and firm,<br>And for <i>willow</i> , faithful and true.      |
| <b>K</b> is for <i>king</i> of the forest grand,<br>The <i>oak</i> must wear the crown.             | <b>X</b> is <i>xanthoxylum</i> , bitter bane<br>Whose virtue is strengthening power.              |
| <b>L</b> is for thorny <i>locust</i> , the <i>larch</i> ,<br>And the <i>linden</i> of fair renown.  | <b>Y</b> is for <i>yew tree</i> , dwelling alone,<br>Friendless and sad we know.                  |
| <b>M</b> is for <i>maple</i> , favorite one,<br>The queen of all the trees.                         | <b>Z</b> is for <i>zenith</i> , the point above,<br>Toward which the trees all grow.              |

Song.—Tune, "Buy my Flowers."

Apple, beech, and cedar fair,  
Fir and hemlock, worthy pair,  
Elm and oak and maple queen,  
Lords and ladies robed in green!  
On this joyous Arbor Day  
Duty's pleasant call obey.  
Plant the trees,  
Plant the trees this Arbor Day.

Grand old trees, we love them all!  
Pine and poplar waving tall,  
Tulip tree and walnut, too,  
Willow sad and lonely yew.  
On this joyous Arbor Day  
Duty's pleasant call obey,  
Plant the trees,  
Plant the trees this Arbor Day.

## Our Three Favorites.

The oak is a strong and stalwart tree,  
And it lifts its branches up  
And catches the dew right gallantly  
In many a dainty cup.  
And the world is brighter and better made,  
Because of the woodman's stroke,  
Descending in sun or falling in shade,  
On the sturdy form of the oak.

The elm is a kindly, goodly tree,  
With its branches bending low;  
The heart is glad when its form we see,  
As we list to the river's flow.  
Ay! the heart is glad and the pulses bound,  
And joy illumines the face  
Whenever a goodly elm is found,  
Because of its beauty and grace.

The maple is supple, and lithe, and strong,  
And claimeth our love anew,  
When days are listless, and quiet, and long,  
And the world is fair to view.  
And later—as beauties and graces unfold—  
A monarch right royally drest,  
With streamers aflame and pennons of gold,  
It seemeth of all the best.

—Selected.

## The Birch Tree.

Rippling through thy branches goes the sunshine,  
Among thy leaves that palpitae forever ;  
Ovid in thee a pining nymph had prisoned,  
The soul once of some tremulous inland river,  
Quivering to tell her woe, but, ah ! dumb, dumb forever.

While all the forest, witched with slumberous moon-shine,  
Holds up its leaves in happy, happy silence,  
Waiting the dew, with breath and pulse suspended,  
I hear afar thy whispering, gleamy islands,  
And track thee wakeful still amid the wide-hung silence.

Upon the brink of some wood-nestled lakelet,  
Thy foliage, like the tresses of a Dryad,  
Dripping about thy slim white stem whose shadow  
Slopes quivering down the water's dusky quiet,  
Thou shrink'st as on her bath's edge would some startled Dryad.

Thou art the go-between of rustic lovers ;  
Thy white bark has their secrets in its keeping ;  
Reuben writes here the happy name of Patience  
And thy lithe boughs hang murmuring and weeping  
Above her as she steals the mystery from thy keeping.

Thou art to me like my beloved maiden,  
So frankly coy, so full of trembly confidences ;  
Thy shadow scarce seems shade, thy pattering leaflets  
Sprinkle their gathered sunshine o'er my senses,  
And nature gives me all her summer confidences.

Whether my heart with hope or sorrow tremble,  
Thou sympathizest still ; wild and unquiet,  
I fling me down ; thy ripple, like a river,  
Flows valleyward, where calmness is, and by it  
My heart is floated down into the land of quiet.

—Lowell.

## The Beech Tree's Petition.

Oh leave this barren spot to me,  
Spare, woodman, spare the beechen tree !  
Though bush or flow'ret never grow,  
My dark unwarming shade below,  
Nor fruits of autumn blossom born  
My green and glossy leaves adorn,  
Nor murmuring tribes from me derive  
The ambrosial treasures of the hive,  
Yet leave this little spot to me,  
Spare, woodman, spare the beechen tree !

Thrice twenty summers have I seen  
The sky grow bright, the forest green ;  
Since childhood in my pleasant bower  
First spent its sweet and sportive hour,  
Since youthful lovers in my shade  
Their vows of truth and rapture made,  
And on my trunk's surviving frame  
Carved many a long-forgotten name.  
Oh, by the sighs of gentle sound  
First breathed upon this sacred ground,  
By all that Love has whispered here,  
Or beauty heard with ravished ear,  
As Love's own altar honor me,  
Spare, woodman, spare the beechen tree !

—Thomas Campbell.

Then rears the ash his airy crest,  
Then shines the birch in silver vest,  
And the beech in glistening leaves drest,  
And dark between shows the oak's proud breast,  
Like a chieftain's frowning tower.

—Scott.

The ancient Druids never performed a religious ceremony without oak branches or leaves in their hand. They held their services and had their schools in dark woods and groves. They believed the mistletoe on the oak was sacred, and they called it "All-heal." They gathered this with great ceremony. A priest in white surplice cut it off with a gold pruning knife.

"I have always admired," says Whittier, "the good taste of the Sokoki Indians around Sabago Lake, who, when their chief died, dug around a beech tree, swaying it down, and placed his body in the rent, and then let the noble tree fall back into its original place, a green and beautiful monument for a son of the forest."

## The Kingship of the Trees.

Directions : Arrange pupils in a semi-circle, with first and seventh students at the ends ; in delivering their respective lines, first student faces audience ; the trees in turn, Maple, Oak, Chestnut, Pine, and Elm, step forward ; the seventh student turns toward the trees. The trees all step forward and give the last lines in concert.

FIRST STUDENT :

Long since when winds were calm and growth was old,  
Over the trees a silence came ;  
And there were musings manifold,  
And then a whisper, last a name,  
Which tree was worthy fame.

As men contend for name and fame, so they  
Contended there which one should be  
The king and wear the crown of May ;  
Their voices rose as waves at sea,  
And thus they spake each tree.

SECOND STUDENT (representing the Maple) :

I am the Maple, beautiful and tall ;  
No fruit bear I, but calmly wait  
Till perfect leaves and hues of fall  
Shall grace my place at beauty's gate ;  
I'm chosen Tree of State  
And beauty's best, so I'll be king !

THIRD STUDENT (representing the Oak) :

I brave the storm, for I am the hardy Oak,  
And toss my branches to the sky ;  
I scorn the blinded lightning's stroke,  
And laugh when rolling clouds are by ;  
A type of strength am I,  
And strength is best, so I'll be king !

FOURTH STUDENT (representing the Chestnut) :

I am the Chestnut shady, home of squirrels  
And happy birds ; the livelong day  
Gay, laughing boys and merry girls  
Within my shade are fast at play,  
With fears and cares away,  
And joy is best, so I'll be king !

FIFTH STUDENT (representing the Pine) :

I grow on mountain heights, my spirit free,  
The lofty, silent, prayerful Pine ;  
The winds and snows find rest with me,  
And men seek out this calm of mine  
To dream on things divine.  
And peace is best, so I'll be king !

SIXTH STUDENT (representing the Elm) :

I am the Elm and love to dwell alone ;  
The clinging vine is wed to me,  
And oft our hearts when peaceful grown  
Commune with earth, and sky, and sea,  
To learn their mystery.  
And wisdom's best, so I'll be king !

SEVENTH STUDENT :

Then Nature gently rose and queenly spake,  
Her voice as soft as summer air :  
" My children dear, advice now take,  
And learn of me the world of care,  
That only freedom's rare.

" Seek no kingship ; there is no first nor best ;  
The best is being best you can ;  
Live more of life and never rest ;  
Each has a work that God began,  
And all are in His plan."

THE TREES (in concert) :

We'll seek no kingship ; here is no first nor best ;  
The best is being best we can ;  
Then more of life and never rest,  
We have a work that God began,  
And all are in His plan.

—Charles Augustus Schumaker.

## The Trees.

Of all nature's children in the schoolroom of the  
plants,

The most studious and faithful are the trees ;  
For they stand in quiet order, just wherever they are  
placed,

While they bow before the ringing of the breeze.

See them raise their arms together, hear them gently  
turn their leaves ;

They perfect themselves in every branch and line.  
At the opening of the school year, they are fresh and  
green indeed,

But they graduate with brilliancy divine.

—W'ildie Thayer.

in "Among the Flowers and Trees with the Poets."

## Plant The Trees.

O, plant the trees, the graceful trees,  
Which God has given man ;  
We cannot all secure a plot,  
But plant them all who can.

Plant them in the open streets,  
Plant them 'round the home,  
Plant them where the toilers are,  
Where weary lab'ers come.

And only hut one grain of care  
Is needed, that they throw  
Their little slender rootlets out,  
To cling, and thrive, and grow.

So plant the trees, O children dear,  
While young and free from care,  
And watch their needs and rapid growth  
Out in the healthful air.

—Mrs. N. S. Bell, in *Nebraska Bird and Arbor Day Manual*.

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## The Planting.

I said unto my little son who was watching tearfully a tree he had planted, "Let it alone, it will grow while you are sleeping."

"Plant it safe and sure, my child,  
Then cease watching and cease weeping ;  
You have done your utmost part :  
Leave it with a quiet heart :  
It will grow while you are sleeping.

"Plant it—all thou canst!—with prayers ;  
It is safe 'neath His sky's folding  
Who the whole earth compasses,  
Whether we watch more or less,  
His wide eye all things beholding.

"Should he need a goodly tree  
For the shelter of the nations  
He will make it grow ; if not,  
Never yet His love forgot  
Human love, and faith, and patience.

"Leave thy treasure in His hand,  
Cease all watching and all weeping ;  
Years hence, men its shade may crave,  
And its mighty branches wave  
Beautiful above thy sleeping."

—Dinah Maria Mulock.



## SONGS.

## WELCOME TO ARBOR DAY.

Words by E. F. STEARNS.

Arr from GERMAN FOLKSONG.

*Cheerfully.*

1. Welcome to Ar - bor Day ! Glad - ly we sing, Na - ture from  
 2. Welcome to Ar - bor Day ! Come one and all, Join in our

sleep a - wakes, Greeting to Spring ! Blossoms with o - dors rare  
 mer - ry glee, List to our call. Woods with their tri - bute ring,

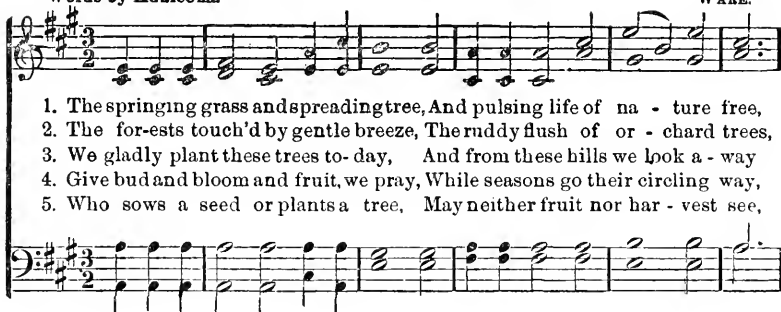
Make earth a gar - den fair ; Sound we thy prais - es with notes loud and  
 Birds cheerful off - ring bring ; Swelling the cho - rus in one gladsome

clear, Wel - come to Ar - bor Day ! Bright words of cheer.  
 song, Wel - come to Ar - bor Day ! Ech - oes a - long.

# Suffield Arbor Song.

Words by AGRICOLA.

WARE.



## NATURE'S PRAYER.

JOHN GREENLEAF WHITTIER,

German Air.



*From the Riverside Song Book.*



## 2

## The Beautiful Woods.

SARAH C. PADELFORD.

EMORY P. RUSSELL.

1. O the pleas-ant woods of Spring-time! When ba-by ferns a-wake  
 2. O the joy-ous woods of Sum-mer! When un-der man-tles green,  
 3. O the peer-less woods of Au-tum! When flam-ing are the trees  
 4. O the mag-ic woods of Win-ter! When snow-flakes in the air

Their ti-ny fin-gers o-pen-ing, While buds to blos-soms break.  
 The for-est trees are gath-er-ing, The sun-light's gold-en sheen.  
 In taw-ny sun-light shim-mer-ing, Or, flash-ing in the breeze.  
 With spot-less robes are cov-er-ing The branch-es brown and bare.

The wal-nuts hang their tas-sels out, The wil-lows bend to greet The  
 In mos-sy dells, by tink-ling rills The birch-es, robed in white Are  
 The ma-ples blush-ing, give their wealth, The chest-nuts show-er down Their  
 The spruce and hem-lock, pine and fir, Are wear-ing still their green, And

cro-cus-es and vi-o-lets, Up-spring-ing at their feet.  
 guard-ed by the gi-ant oak, Their stead-fast, stal-wart knight.  
 treas-ures rich, with price-less gems From black oak's gold-en crown.  
 thus through-out the chang-ing year, The love-ly woods are seen.

## SONG OF THE MAPLE.

Lively.

R. M. Streeter,  
Mrs. E. Fitzgerald.

1. Maple, from thy leafy wildwood, Where thine early years have sped; Emblem of our happy childhood,
2. Infant leaves, unclasp your fingers, Sunshine, kiss their tender palms; Ev'ning wind, as twilight lingers,
3. On the early-dawning morrow, In the garden-world of care, We must meet the joy and sorrow



To the past forever fled; Here, with radiant Spring adorning "Banks and braes" with buds and flow'rs,  
With our maple in thine arms, Sway and sing: "O dews of even, Daily as ye sink to rest,  
That await our coming there. O brave hearts! when restful even Finds our daily duties o'er,

CHORUS.



We, in life's hope-lighted morning, Leave thee to the sun and showers. Maple, from the happy wildwood,  
May ye see that nearer heaven, Grows the nestling on my breast." Maple, from the happy wildwood,  
May it find us nearer Heaven Than we were the day before. Maple, from the happy wildwood,



Where thine early years have sped: Emblem of our happy childhood, To the past forever fled.

From "Franklin Square Song Collection, No. 3."

By courtesy of Messrs. Harper &amp; Brothers.



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